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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,373	03/11/2002	Marco Techt	2872	6382
26822	7590	03/30/2004	EXAMINER	
WALTER A. HACKLER 2372 S.E. BRISTOL, SUITE B NEWPORT BEACH, CA 92660-0755			MONBLEAU, DAVIENNE N	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 03/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/019,373	Applicant(s) TECHT ET AL.	
	Examiner Davienne Monbleau	Art Unit 2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 3/11/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/26/01</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed 12/26/01 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

Specification

A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.

Furthermore, the specification does not provide adequate descriptions of the various stages that the burning chamber goes through or the different threshold levels and their significance (i.e. darkness threshold).

Drawings

Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the flame sensor, monitoring circuit,

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oil-burner, and fuel supply must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

Regarding Claim 2, line 2 reads “stabilization phase (II)”. Assuming that the “stabilization phase” part is correct, “(II)” needs to be changed to -- (III) --.

Claim 6 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Furthermore, the phrase “according to one or more of the preceding claims” is indefinite. There is no indication as to which claims this claim is dependant upon. Accordingly, the claim has not been further treated on the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are

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replete with grammatical and idiomatic errors. They should be reviewed and rewritten in clear and concise English.

Claim 1 recites the limitation "the illumination intensity" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the burning chamber" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the fuel supply" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the starting phase" in lines 5-6. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the stabilization and operating phase" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "the fuel supply" in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation "starting phase" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the fuel supply" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the burning chamber" in 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "the starting phase" in line 4. There is insufficient antecedent basis for this limitation in the claim.

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Claim 7 recites the limitation "the stabilization and operating phase" in line 7. There is insufficient antecedent basis for this limitation in the claim.

Claim 8 recites the limitation "the fuel supply" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Regarding Claims 1 and 3, the phrase "in particular" renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the components of the monitoring circuit and the flame sensor.

Claims 1-6 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the connection between the flames sensor and the burning chamber, the monitoring circuit and the fuel supply, and the fuel supply and burning chamber.

Claims 7 and 8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. In *Ex parte Lyell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990). Claim 7 is directed to a device for the monitoring of flame of oil burners and the method of using it.

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Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 7 and 8 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claim is directed to neither a “process” nor a “machine,” but rather embraces or overlaps two different statutory classes of invention set forth in 35 U.S.C. 101 which is drafted so as to set forth the statutory classes of invention in the alternative only. *Id.* at 1551.

Claim Rejections - 35 USC § 103

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 1-5, to the extent taught and understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art (*APA*) Figure 2 in view of Marran et al. (US 5,424,554).

Regarding Claim 1, *APA Figure 2* teaches a device for the monitoring of flames of oil burners comprising a flame sensor detecting the illumination intensity in the burning chamber and a monitoring circuit controlling the fuel supply. (See also page 2 paragraph 4). *APA Figure 2* further teaches that said monitoring circuit comprises a luminance threshold ($B_{\max}(I)$) for the starting phase (I) of the oil burner, above which an error message is issued, and with a darkness threshold ($B_{\min}(III,IV)$) higher than the luminance threshold ($B_{\max}(I)$) for the stabilization and operating phases (III,IV) of the oil burner, below which an error message is issued. *APA Figure 2* does not teach that said darkness threshold ($B_{\min}(III)$) during the stabilization phase (III) is higher than the darkness threshold ($B_{\min}(IV)$) during the subsequent operating phase (IV). *Marran* teaches in columns 6-7 an apparatus for monitoring flame intensity and that the temperatures in the burning chamber are lower during the standby/operating cycles because the burner element surrounding the flame has not had a chance to come up to a stabilization temperature (column 6 line 66 to column 7 line 2). Since temperature and intensity are directly related and a decrease in temperature results in a decrease in intensity, the light intensities radiated by the burner flame are likewise lower and irregular (column 7 lines 1-2). It is likely that the monitor, which has threshold levels set for the stabilization stage (column 6 line 37-39), will give an indication of improper operation during standby/operating cycles or even short heating cycles (column 7 lines 3-7). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the threshold levels (which indicate upper and lower

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intensity values) in *APA Figure 2*, as suggested by *Marran*, to accommodate the lower temperature ranges (and lower intensity ranges) during subsequent operating cycles to avoid false errors.

Regarding Claim 2, *APA Figure 2* does not teach that the darkness threshold ($B_{\min}(\text{III})$) of blue-flame oil burners during the stabilization phase (III) is higher than the illumination intensity during their operating phase (IV). As stated above, *Marran* teaches in columns 6-7 an apparatus for monitoring flame intensity and that the temperatures in the burning chamber are lower during the standby/operating cycles because the burner element surrounding the flame has not had a chance to come up to a stabilization temperature (column 6 line 66 to column 7 line 2). Since temperature and intensity are directly related and a decrease in temperature results in a decrease in intensity, the light intensities radiated by the burner flame are likewise lower and irregular (column 7 lines 1-2). It is likely that the monitor, which has threshold levels set for the stabilization stage (column 6 line 37-39), will give an indication of improper operation during standby/operating cycles or even short heating cycles (column 7 lines 3-7). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to adjust the threshold levels (which indicate upper and lower intensity values) in *APA Figure 2*, as suggested by *Marran*, to accommodate the lower temperature ranges (and lower intensity ranges) during subsequent operating cycles to avoid false errors. Accordingly, since the intensity is generally higher in the stabilization phase as compared to the operating phase, it is logical that the darkness threshold ($B_{\min}(\text{III})$) (lower intensity value) will be higher in the stabilization phase as compared to that of the operating phase.

Regarding Claims 3-5, *APA Figure 2* does not teach a maximum luminance threshold (B_{\max}). *Marran* teaches in Figure 7 comparator elements (74) for comparing the intensity of sensed light from a sensor element (72) to predetermined upper and lower limits (thresholds). This upper limit corresponds to the maximum luminance threshold (B_{\max}). It would have been obvious to one of ordinary skill in the art at the time of the invention to have a maximum luminance threshold (B_{\max}) in *APA Figure 2*, as suggested by *Marran*, to prevent over-heating in the burner. Furthermore, it would have been obvious to incorporate this upper threshold limit in each of the 4 stages to ensure stability throughout the operation of the burner with the ability to provide over-heating warnings in each stage.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. *Ganeshan* (US 6,278,374) teaches in Figure 2 flame detection apparatus comprising a burner (11) and a flame sensor (10) for monitoring a flame (11a), wherein said monitoring comprises taking a digital image of a flame, determining a value of the relative light intensity, and comparing that value to a tolerance ranger for the flame. *Butcher et al.* (US 5,126,721) teaches in Figure 3 a flame quality monitor system comprising a burner (12), a flame (14), a flame sensor (16), a comparator (20) for comparing a detected signal with a preset voltage range, and a driver (22) to control the burner. *Brown* (US 5,480,298) teaches in Figure 1 a device for controlling the emissions of a burner comprising monitoring the intensity of a particular spectral emission line for the combustion of the flame and dynamically adjusting the fuel-to-air ration of the combustor to keep the measured intensity below a predetermined level.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Davienne Monbleau whose telephone number is 571-272-1945. The examiner can normally be reached on Mon-Fri 9:00 am to 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on 571-272-2444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Davienne Monbleau
DNM


Stephane B. Allen
Primary Examiner